TABLE S1: Summary Statistics, by Lesion Classification

Available Data, Parameter	Malignant Lesions	Benign Lesions
CT quantitative		
Unenhanced attenuation (HU)	33.1 (24.8–42.6)	11.2 (–34.3 to 55.1)
Portal venous phase attenuation (HU)	76.6 (33.0–121.6)	75.6 (–29.3 to 156.6)
Delayed phase attenuation (HU)	64.8 (27.8–88.1)	37.3 (–16.0 to 81.4)
APEW (%)	40.8 (–94.6 to 63.5)	67.3 (–265.3 to 84.8)
RPEW (%)	19.0 (–30.1 to 46.5)	54.5 (–27.7 to 1034.4)
CT descriptive		
Long-axis diameter (cm)	3.45 (1.60–21.20)	3.17 (1.20–12.04)
Short-axis diameter (cm)	2.18 (1.17–18.30)	2.40 (0.76–10.83)

Note—Data are median (range). APEW = absolute percentage enhancement washout, RPEW = relative percentage enhancement washout.

TABLE S2: Summary Statistics, by Lesion Classification

Available CT Data	Comparison	Malignant		Benign	
		Affirmative	Alternate	Affirmative	Alternate
Descriptive CT data					
Calcification	Yes vs no	2	20	7	68
Fat	Yes vs no	1	21	8	67
Texture	Homogeneous vs heterogenous	6	16	37	38
Margin	Well- vs ill-defined	20	2	75	0
Medical history	Prior malignancy vs none known	14	8	13	62

Note—Data are number of lesions.

APPENDIX S3: Examples of Using the Probability Predictive Formula

The estimated probability (π) of observing a malignant lesion can be obtained from the equation below, based on the linear combination of the regression coefficients provided in Table 4 in the main text and observed predictor variables:

$$\pi\,(X_1,X_2,X_3,X_4,X_5,X_6) = \frac{1}{1 + \exp\,\{-(a + X_1 b + X_2 c + X_3 d + X_4 e + X_5 f + X_6 g)\}}, \quad (1)$$

where X_1 = portal venous phase attenuation (in Hounsfield units), X_2 = delayed phase attenuation (in Hounsfield units), X_3 = absolute percentage enhancement washout (APEW, in %), X_4 = long-axis diameter (in centimeters), X_5 = patient age (in years), and X_6 = medical history (where previous malignancy = 1 and no previous malignancy = 0).

Example 1

Suppose we have a patient in whom we observe the following CT quantitative data for an adrenal lesion: unenhanced attenuation, 20 HU; portal venous attenuation, 80 HU; and delayed attenuation, 42.8 HU. The APEW = [(portal venous attenuation – delayed attenuation) / (portal venous attenuation – unenhanced attenuation)] × 100 = [(120 – 55) / (120 – 15)] × 100 = 62%. The probability of malignancy is calculated as follows:

$$\pi\,(X_1,X_2,X_3) = \frac{1}{1 + \exp\,\{-[-7.7673 + (80 \times -0.1458) + (42.8 \times 0.2807) + (62 \times 0.0765)]\}}. \quad (2)$$

Thus, the probability of malignancy is 6.5%.

Example 2

Suppose in the above example, we also have access to the following descriptive, demographic and past medical data: maximum long-axis diameter of the adrenal lesion, 3.0 cm; age, 80 years; and positive medical history of a primary malignancy, 1. The probability of malignancy is calculated as follows:

$$\pi\,(X_1,X_2,X_3,X_4,X_5,X_6) = \frac{1}{1 + \exp\,\{-[-25.7660 + (80 \times -0.2140) + (42.8 \times 0.4539) + (62 \times 0.1446) + (3.0 \times 0.3278) + (80 \times 0.1193) + (1 \times 4.6300)]\}}. \quad (3)$$

Thus, the probability of malignancy is 66.0%.